

- a generator module to generate a data condition of the diagnostic information.
- [c21] 21. A software program for selecting a method of processing the physiological data, the software program comprising:
a data collection module to collect data;
a signal separation module that receives the data from the data collection module and separates the asynchronous component from the synchronous component; and
a selector module that selects a data manipulation process based on the diagnostic information.
- [c22] 22. A software program as set forth in claim 21, wherein the signal separation module further comprises:
an analysis module to analyze at least one of a rhythm, an atrio-ventricular conduction, a ventricular rate, a P wave amplitude, a QT interval and an age qualifier from the diagnostic information.
- [c23] 23. A software program as set forth in claim 21, wherein the data manipulation process is a lossy process that low-pass filters, down-samples, re-quantizes, compares, polarity reversal encodes and Huffman encodes the data.
- [c24] 24. A software program as set forth in claim 21, wherein the data manipulation process is a lossless process that compares and Huffman encodes the data.
- [c25] 25. A method of automatically selecting a data compression scheme, the method comprising:
receiving raw data including an asynchronous component and a synchronous component;
separating the asynchronous component from the synchronous component;
classifying a data condition based on the asynchronous component; and
selecting a data compression scheme based on the data condition.
- [c26] 26. A method as set forth in claim 25, wherein the act of selecting of a data manipulation process includes classifying an abnormality condition of the asynchronous component.
- [c27] 27. A method as set forth in claim 25, wherein data compression scheme

comprises a lossy process and a lossless process, and wherein the method further comprises the act of processing the asynchronous component and the synchronous component using a one of the lossy process and the lossless process.

- [c28] 28. A method as set forth in claim 27, wherein the data compression scheme is a lossy process.
- [c29] 29. A method as set forth in claim 27, wherein the data compression scheme is a lossless process.
- [c30] 30. A medical device comprising:
a patient data acquisition device that collects physiological data including an asynchronous component having diagnostic information and a synchronous component; and
a software program for selecting a method of processing the physiological data and manipulating the physiological data based on the method selected, the software program including a signal separation module that receives the data from the data collection and separates the asynchronous component from the synchronous component; a selector module that generates a data manipulation process selection based on the diagnostic information; and a data manipulator module that manipulates the asynchronous component and the synchronous component according to the component type and the data manipulation process selection of the selector module.
- [c31] 31. A medical device as set forth in claim 30, wherein the signal separation module further comprises:
a classifier module to classify an abnormality condition of the diagnostic information.
- [c32] 32. A medical device as set forth in claim 31, wherein the classifier module further comprises:
an analysis module to analyze at least one of a rhythm, an atrio-ventricular conduction, a ventricular rate, a P wave amplitude, a QT interval and an age qualifier from the diagnostic information.
- [c33] 33. A medical device as set forth in claim 30, wherein the data manipulation

- process is a lossy process that low-pass filters, down-samples, re-quantizes, compares, polarity reversal encodes and Huffman encodes the data.
- [c34] 34. A medical device as set forth in claim 30, wherein the data manipulation process is a lossless process that compares and Huffman encodes the data.
- [c35] 35. A medical device as set forth in claim 30, wherein the selector module further comprises:
a generator module to generate a data condition of the diagnostic information.
- [c36] 36. A software program for compressing physiological data, the software program comprising:
a data collection module to collect data;
a signal separation module that receives the data from the data collection module and separates the asynchronous component from the synchronous component;
a selector module that selects a data manipulation process based on the diagnostic information; and
a data manipulator module that manipulates the asynchronous component and the synchronous component based on the data manipulation process selected.
- [c37] 37. A software program as set forth in claim 36, wherein the signal separation module further comprises:
an analysis module to analyze at least one of a rhythm, an atrio-ventricular conduction, a ventricular rate, a P wave amplitude, a QT interval and an age qualifier from the diagnostic information.
- [c38] 38. A software program as set forth in claim 36, wherein the data manipulation process is a lossy process that low-pass filters, down-samples, re-quantizes, compares, polarity reversal encodes and Huffman encodes the data.
- [c39] 39. A software program as set forth in claim 36, wherein the data manipulation process is a lossless process that compares and Huffman encodes the data.
- [c40] 40. A method of automatically selecting and applying data compression scheme, the method comprising:
receiving raw data including an asynchronous component and a synchronous